

Pro-Pest[®] SAFESTORE[®]: Fact Sheet

STORED PRODUCT MOTHS

Plodia Sp. & Ephestia Sp.

Plodia interpunctella (Indian Meal Moth), *Ephestia cautella* (Almond Moth), *Ephestia elutella* (Tobacco Moth, Cocoa Moth, Warehouse Moth), *Ephestia kuehniella* (Mediterranean Flour Moth), *Cadra figulilella* (Raisin Moth).

DISTRIBUTION & HABITAT:

The Indian Meal Moth, *Plodia interpunctella*, feeds on numerous stored products such as grain, grain products, seeds, nuts, cereal, powdered milk, chocolate, bird seed and dog food. The Tobacco Moth *Ephestia elutella* has relatively extensive distribution, being found throughout the temperate areas of the world, but not however in the tropics. Generally to be considered an indoor insect it is most successful in food storage environments such as warehouses factories and shops.

BIOLOGY:

Adult emergence (eclosion) generally starts in the spring and continues to autumn. Male moths fly readily in response to sex pheromone released by the females. Mating usually occurs on food stacks. Mated females may lay up to 200 eggs over a two week period. The larvae are able to penetrate even well sealed packaging. Heavy infestations may lead to visible signs such as silk deposits on the edges of stacks. After 5 - 6 molts, larvae will climb to wall/ceiling intersections where only a small proportion of them will pupate immediately, the rest entering a resting phase (diapause) which allows the extended emergence period.

During diapause, insects are able to withstand conditions that would usually kill them. They are therefore able to survive even the coldest of winters, and moth infestations may then re-occur. The tobacco moth in particular is able to withstand very low humidity, although adults are very sensitive to low temperatures.

Mediterranean Flour Moth: Grey forewings, dirty-white hind wings.

Indian Meal Moth: Third of forewing closest to body cream color, remainder is copper.

Tobacco Moth: Banded pale grey or buff wings, antennae held close to the insects back.

SIGNIFICANCE AND PEST STATUS:

The Indian Meal Moth, *Plodia interpunctella*, is the number one stored product insect monitored for in the US (75 –80%) due to it's ability to thrive on a wide variety of foods & it's world-wide distribution. Infestations can be severely detrimental to product quality. They are common pests in homes, retail stores, pet stores and food manufacturing and storage facilities.

The tobacco moth, *Ephestia elutella*, is a major pest of tobacco products. Damage caused by the larvae may be considerable. Foodstuffs are contaminated by the silk, fecal material or frass, and the bodies of the insects themselves.

The mediterranean moth, *kuehniella*, is a major pest of flour. It also infests chocolate, nuts, beans, dried fruits and other stored foods. It is common in both homes and commercial accounts such as flour mills and bakeries. Larval silk is often responsible for blockages in commercial equipment causing temporary shut-downs to clear and clean equipment.

The almond moth is known to infest... dried fruits, figs and dates particularly, shelled nuts, grains and seeds. The adult moths are known for their quick, darting flight patterns.

The raisin moth is known to feed on raisins, peaches, apricots, pears, and figs as well as grain, rice, meal, corn, and oatmeal.

Pro-Pest[®] SAFESTORE[®]: Instructions

STORED PRODUCT MOTHS -Plodia Sp. & Ephestia Sp.

Diamond Traps or Easy Ready Traps

Stored Product Moth population monitoring kit contains ten Diamond Trap or Easy Read Trap units, 10 rubber septas containing attractant pheromone and instructions.

Best results can be obtained by using the Pro-Pest[®] SAFESTORE[®] system to set up a monitoring program. When in place, such a program can help you to identify when and where infestation problems will arise.

RECOMENDED: that a thorough inspection of the area involved be carried out, and potential infestation “hotspots” are identified and marked on a site plan or map. The position of the traps can be marked on this map when they are placed, to facilitate the reading of catch levels.

PREPARATION:

Diamond Traps: Hold the diamond trap at the top (hole punch is located at the top of the trap) and grab the underside fold and pull down. The diamond trap is now open and ready for placement of the pheromone. Open the foil package and remove the pheromone rubber septa and place in the center of the glue area inside the trap. It is now ready to hang in place (wire hanger provided).

Easy Read Traps: Open the foil package and remove the pheromone rubber septa and place in the center of the glue area inside the Easy Read trap. It is now ready to place.

PLACEMENT: can affect the amount of insects that will be caught, so for an effective program, it is important that the traps are placed in the best position available, and when they are replaced, the positioning is altered as little as possible so that information from different times of the year can be compared. Traps should be placed when temperature reaches 55°F or higher.

BEST POSITIONING: varies from site to site, so there is a certain amount of choice available in the placing of the traps, however good results can be obtained by following a few guidelines:

- Wherever possible, place units where insects are likely to fly or have been observed.
- If possible, positions should be chosen that offer shelter for the trap (fire hoses or fire extinguishers)
- Ensure that sanitation staff is informed of the program to prevent trap removal.
- Mark the position of the traps on the site plan, and assign them a number.
- Never store monitoring equipment with insecticides.
- Wash hands before placing or inspecting trap units.
- Avoid placing traps in areas where large volumes of air are moving out of the building.
- Place traps in a grid pattern (30 – 50’ feet), shorter intervals to pin-point infestations.

REGULAR CHECKING: once per week is recommended, however it may be necessary to inspect more often if you have a zero insect tolerance policy.

The sensitivity of the area to be monitored dictates how often they should be inspected, but whatever frequency they are checked should be kept constant so that the records you keep can be compared to each other. [Click here](#) to see our Record Charts for monitoring of specific and non-target pests. These tables can be printed, photocopied, completed and filed for future reference.

Trap units should be replaced every 6 – 8 weeks. Care should be taken during inspections to check the condition of the glue areas in the units, especially in dusty conditions or high insect catch situations, which may cause the glue surface to deteriorate. Should this occur, the trap should be replaced.

Un-used lures/pheromones and traps should be stored in a cool place, avoid direct sunlight. Lures/pheromones can be refrigerated or kept in a freezer for long storage life.

The information given in this instruction sheet is provided as a general guide, and is by no means extensive. The biology of pests is the subject of a great many texts and although every effort has been made to provide factually correct information, Russell Fine Chemicals nor J.F.Oakes Sales & Marketing will in no circumstance be liable in respect of any omission or error.